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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,255	07/18/2003	Mitsunori Sano	03427/LH	2854

1933 7590 04/23/2004  
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EXAMINER

THOMAS, ERIC W

ART UNIT PAPER NUMBER

2831

DATE MAILED: 04/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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## Office Action Summary

Application No.

10/623,255

Applicant(s)

SANO ET AL.

Examiner

Eric W Thomas

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6, 7, 13 and 14 is/are allowed.
- 6) ☒ Claim(s) 1-5, 8-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/03; 7/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Objections*

1. Claim 1 is objected to because of the following informalities:

Claim 1, line 3, change "layers" to --layer--. Appropriate correction is required.

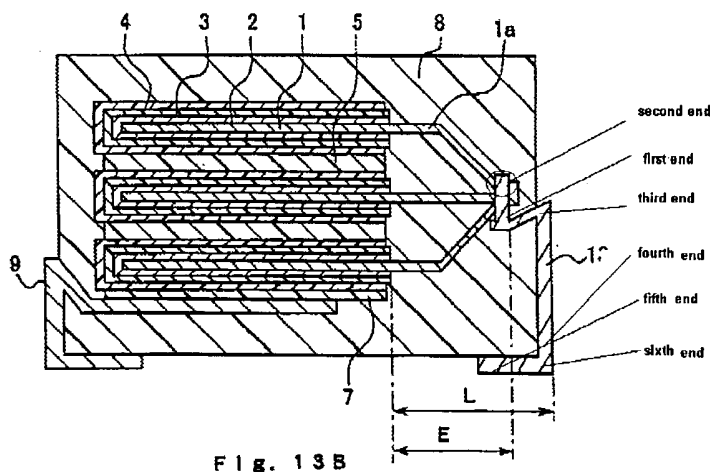
### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 8-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Shiraishi et al. (US 6,392,869).



Shiraishi et al. disclose in fig. 13 B, a solid electrolytic capacitor comprising: a capacitor element (1) including a porous sintered compact (suggested in col. 5 lines 55-60) made of a valve action (col. 1 lines 10-11) metal having an anode lead (1a) and a

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dielectric (2), an electrolyte (3) and a cathode layers ((upper or lower) 4) successively formed on a surface of the porous sintered compact, an anode terminal (13) connected to the anode lead of said capacitor element, a cathode terminal (9) connected to the cathode layer, and a casing material (8) covering said terminals and said capacitor element; wherein said anode terminal includes a first plate piece having first and second ends, a second plate piece having third and fourth ends, and a third plate piece having fifth and sixth ends, said first, second and third plate pieces being formed of continuous members, said third plate piece having one surface exposed to the exterior of said casing material and forming a mounting surface defined by said the fifth and sixth ends communicated to each other and the other surface opposing the exposed surface, said first plate piece having the first end arranged in proximity to said other surface so as to intersect in the shape of letter T with said third plate piece, the second end of said first plate piece being extended and joined to the anode lead, said second end and the fourth end being respectively connected to the third end and the fifth end (see above).

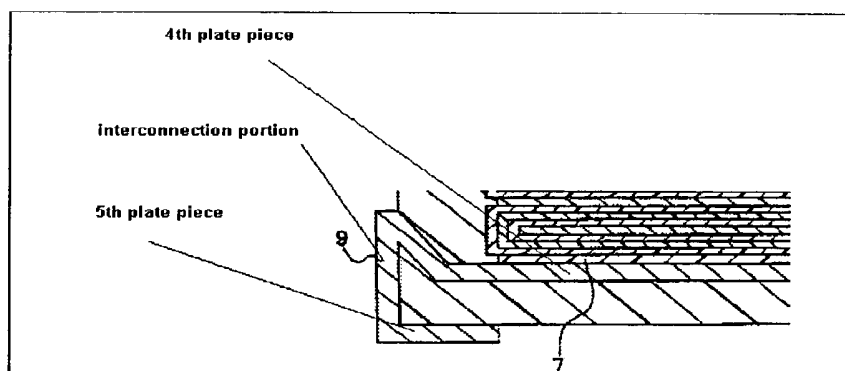
Regarding claim 2, Shiraishi et al. disclose the second plate piece is arranged nearer to the cathode layer (upper) than the third plate piece.

Regarding claim 3, Shiraishi et al. disclose the anode terminal is formed of a single metal plate (as illustrated in fig. 13B).

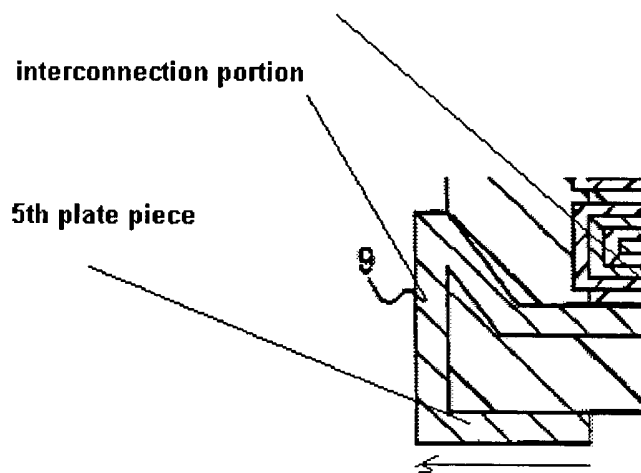
Regarding claim 4, Shiraishi et al. disclose said cathode terminal includes a fourth plate piece and a fifth plate piece which have their inner ends respectively connected (indirectly) to an interconnection portion so as to form a step through the interconnection portion and to become parallel to each other, one surface of said fourth

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plate piece being joined to said cathode layer (lower), while one surface of said fifth plate piece remote from said cathode layer forms a mounting surface exposed to the exterior of said casing material (see below).



Regarding claim 5, Shiraishi et al. disclose the fifth plate piece extends in a direction of coming away from the anode terminal with respect to the fourth plate (see below).



Regarding claim 8, Shiraishi et al. disclose a method of manufacturing a solid electrolytic capacitor containing a porous sintered compact made of a valve metal

having an anode lead (1a), and a dielectric (2), an electrolyte (3) and a cathode layer (4) successively formed on a surface of the porous sintered compact, an anode terminal connected (13) to the anode lead of the capacitor element; a cathode terminal which is connected to the cathode layer; and a casing material covering the terminals and the capacitor element, said method comprising the steps of: preparing as the anode terminal a series of members in which a first plate piece is continuous to a third plate piece through a second plate piece; forming the series of members into a shape in which the first and third plate pieces intersect in a shape of letter T in a state where the first plate piece extends to said anode lead; and forming the second and third plate pieces into a state where one surface of the third plate piece is exposed to the exterior of the casing material as a mounting surface of the solid electrolytic capacitor.

Regarding claim 9, Shiraishi et al. disclose the second plate piece is arranged nearer to the cathode layer than the third plate piece.

Regarding claim 10, Shiraishi et al. disclose the anode terminal is formed of a single metal plate (as illustrated in fig. 13B).

Regarding claim 11, Shiraishi et al. disclose said cathode terminal includes a fourth plate piece and a fifth plate piece which have their inner ends respectively connected (indirectly) to an interconnection portion so as to form a step through the interconnection portion and to become parallel to each other, one surface of said fourth plate piece being joined to said cathode layer (lower), while one surface of said fifth plate piece remote from said cathode layer forms a mounting surface exposed to the exterior of said casing material.

Regarding claim 12, Shiraishi et al. disclose the fifth plate piece extends in a direction of coming away from the anode terminal with respect to the fourth plate.

***Allowable Subject Matter***

3. Claims 6-7, 13-14 are allowed.
4. The following is a statement of reasons for the indication of allowable subject matter: The prior art does not teach or fairly suggest (taken in combination with the other claimed features) a solid electrolytic capacitor comprising an anode terminal includes a second plate piece bent at about 90 degrees at the mounting surface so as to extend toward a cathode; and a third plate piece formed in such a way that a side of the mounting surface is folded back toward an anode by bending at about 180 degrees (claims 6-7); and a method of manufacturing a solid electrolytic capacitor including an anode terminal includes a second plate piece bent at about 90 degrees at the mounting surface so as to extend toward a cathode; and a third plate piece formed in such a way that a side of the mounting surface is folded back toward an anode by bending at about 180 degrees (claims 13-14).

***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

4,660,127 – discloses a fail-safe lead configuration for chip like electrical component.

6,625,009 – discloses a solid electrolytic capacitor having a t-shaped anode terminal.

4,017,773 – discloses a solid electrolytic capacitor having a t-shaped anode terminal.

In order to ensure full consideration of any amendments, affidavits, or declaration, or other documents as evidence of patentability, such documents must be submitted in response to this Office action. Submissions after the next Office action, which is intended to be a final action, will be governed by the requirements of 37 CFR 1.116 which will be strictly enforced.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric W Thomas whose telephone number is (571) 272-1985. The examiner can normally be reached on M, T, Sa 9:00AM - 9:30PM; W, Th, F 5:30PM-10:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (571) 272-1984. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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